

What is claimed:

1. A tissue cutting device comprising:
  - an elongated handpiece defining an elongated channel on an outer surface of said handpiece;
  - a cannula hub mounted to said handpiece and having a fluid port;
  - a tube connected at one end to said fluid port and having an opposite end connectable to a fluid source, said tube disposed within said elongated channel and sized to be recessed within said channel relative to said outer surface
  - an outer cannula supported at a proximal end by said cannula hub and defining a tissue-receiving opening adjacent a distal end thereof, and a lumen between said proximal and distal ends in fluid communication with said fluid port of said cannula hub; and
  - an inner cutting member slidably disposed within said lumen of said outer cannula and defining a cutting edge at said distal end operable to sever tissue projecting through said tissue-receiving opening.
2. The tissue cutting device of claim 1, further comprising a fluid source connected to said opposite end of said tube, said fluid source including:
  - a container holding a supply of a fluid; and

a valve between said container and said fluid port and operable to control the flow of fluid from said container through said tube.

3. The tissue cutting device of claim 2, wherein said valve is a pinch valve engaged about said tube.

4. A method for performing a tissue biopsy at a sample site within a patient comprising the steps of:

introducing an outer cannula into the patient with a tissue receiving opening adjacent the sample site;

providing a medical treatment through the outer cannula at the sample site;

connecting the outer cannula to a tissue biopsy handpiece having a motor-driven tissue cutting cannula with the tissue cutting cannula extending into the outer cannula;

operating the tissue biopsy handpiece to excise tissue through the tissue receiving opening; and

storing the excised tissue for subsequent examination.

5. A tissue cutting device for removing tissue from a patient comprising:

an outer cannula configured for introduction into the patient and defining a tissue-receiving opening adjacent a distal end thereof;

an inner cannula slidably disposed within said outer cannula and defining a lumen from an open distal end to an open opposite

end, said inner cannula further defining a cutting edge at said open distal end operable to sever tissue projecting through said tissue-receiving opening;

a motor assembly operably coupled to said inner cannula to rotate and reciprocate said inner cannula within said outer cannula;

a vacuum source fluidly coupled to said inner cannula for generating a vacuum in said lumen of said inner cannula to draw severed tissue therethrough; and

a tissue collection chamber interposed between said vacuum source and said open opposite end of said inner cannula to receive severed tissue drawn into said chamber by the vacuum.

6. The tissue cutting device of claim 5, wherein said tissue collection chamber includes a filter permitting passage of fluid therethrough while retaining the severed tissue within said chamber.

7. A tissue cutting device comprising:

an outer cannula defining a tissue-receiving opening adjacent a distal end thereof;

an inner cannula slidably disposed within said outer cannula and defining a lumen from an open distal end to an open opposite proximal end, said inner cannula defining a cutting edge at said open distal end operable to sever tissue projecting through said tissue-receiving opening;

a rotary motor operably coupled to said inner cannula to rotate said inner cannula within said outer cannula;

a reciprocating motor operably coupled to said rotary motor to translate said rotary motor and thereby translate said inner cannula within said outer cannula while said inner cannula rotates; and

a handpiece supporting said rotary motor and said reciprocating motor, said handpiece including a pair of opposite rails,

wherein said rotary motor includes a pair of opposite outwardly projecting wings configured to be slidably supported on said opposite rails to resist rotation of said rotary motor while permitting said rotary motor to translate relative to said rails.